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PROTECTION OF OCEANS, ALL KINDS OF SEAS INCLUDING ENCLOSED AND SEMI-ENCLOSED SEAS, COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING RESOURCES

(Section II, chapter 9 of Agenda 21)

Text submitted by the Chairman on the basis of negotiations held on document A/CONF.151/PC/100/Add.21

Attached is the revised text of Programmes E and G of document A/CONF.151/PC/100/Add.21.

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E. ADDRESSING CRITICAL UNCERTAINTIES FOR THE MANAGEMENT OF MARINE ENVIRONMENT AND CLIMATE CHANGE

WORKING PAPER

Basis for action

110. Marine ecosystems are very vulnerable and sensitive to climate and atmospheric changes. Rational use and development of coastal areas, all seas and marine resources, as well as conservation of marine ecosystems, requires the ability to determine the present state of these systems and to predict future conditions. The high degree of uncertainty in present information inhibits effective management and limits the ability to make predictions and assess environmental change. Systematic collection of data on marine environmental parameters will be needed to apply integrated management approaches and to predict effects of global climate change and of atmospheric phenomena, such as ozone depletion on living marine resources and the marine environment. In order to determine the role of the oceans and all seas in driving global systems and to predict natural and man-induced changes in marine and coastal environments, the mechanisms to collect, synthesize and disseminate ocean information from research and systematic observation activities need to be restructured and reinforced considerably.

111. There are many uncertainties about climate change and particularly sealevel rise. Small increases in sealevel have the potential of causing significant damage to small islands and low-lying coasts. Response strategies should be based on sound data. A long-term cooperative research commitment is needed to provide data required for global climate models and to reduce uncertainty. Meanwhile, precautionary measures should be undertaken to diminish the risks and effects, particularly on small islands and on low-lying and coastal areas of the world.

112. Increased ultraviolet radiation derived from ozone depletion has been reported in some areas of the world. An assessment of its effects in the marine environment is needed to reduce uncertainty and to provide a framework for action.

Objectives

113. States, in accordance with the relevant rights and obligations of Part XIII of the United Nations Convention on the Law of the Sea and with the cooperation of appropriate regional and international organizations, should:

(a) Conduct scientific research on and systematic observation and monitoring of the marine environment within the limits of national jurisdiction and high seas, including interactions with atmospheric phenomena such as ozone depletion;

(b) Exchange data and information resulting from scientific research and monitoring and from traditional ecological knowledge and ensure its availability to policy makers and the public at the national level;

(c) Develop standard inter-calibrated procedures, measuring techniques, data storage and management capabilities for scientific research on and systematic observation of the marine environment.

114. States may consider mechanisms to evaluate and, as appropriate, compensate the effects caused by additional ultraviolet radiation.

Activities

Management-related:

115. States should consider, inter alia:

(a) Coordinating national and regional observation programmes for coastal and near-shore phenomena related to climate change and for resource parameters essential for ocean and all seas and coastal management in all regions;

(b) Providing improved forecasts of marine conditions for the safety of inhabitants of coastal areas and for the efficiency of maritime operations;

(c) Adopting special measures to cope with potential climate change and sealevel rise, including the development of globally accepted methodologies for coastal vulnerability assessment, modelling and response strategies particularly for priority areas, such as small islands, low-lying States and areas and critical coastal areas;

(d) Identifying ongoing and planned programmes of systematic observation of the marine environment, with a view to integrating activities and establishing priorities to address critical uncertainties for ocean and all seas and coastal zone management;

(e) Initiating a programme of research to determine the biological effects of increased levels of ultraviolet rays due to the depletion of the stratospheric ozone layer and to evaluate the possible economic effects.

Data and information:

116. Recognizing the important role that oceans and all seas play in attenuating potential climate change, IOC and other relevant competent United Nations agencies with the support of countries having the resources and expertise, should carry out analysis, assessments and systematic observation of the role of oceans as a carbon sink.

117. States should consider, inter alia:

(a) Increasing international cooperation particularly with a view to strengthening national scientific and technological capabilities for analysing, assessing and predicting global climate and environmental change;

(b) Supporting the Global Ocean Observing System (GOOS) of the IOC which is being designed in cooperation with WMO, UNEP and other international organizations for the collection, analysis and distribution of data and information from the oceans and all kinds of seas, including enclosed and semi-enclosed seas, and from coastal areas;

(c) Creating accessible multisectoral information bases, covering the results of research and systematic observation programmes;

(d) Linking these databases to existing data and information services and mechanisms such as the World Weather Watch and Earthwatch for communicating these results to decision makers, environmental managers and the general public;

(e) Promoting the exchange of data and information and its storage and archiving through the World Data Centres;

(f) Developing national capabilities.

International and regional cooperation and coordination:

118. States should consider in cooperation with international, regional and subregional organizations, where appropriate:

(a) Providing technical cooperation in developing the capacity of coastal and island States for marine research and monitoring, and for using its results;

(b) Strengthening and consolidating existing national institutions or creating joint international ocean and seas analysis and prediction mechanisms in order to prepare and exchange global and regional oceanographic analyses and forecasts and to provide facilities for international research and training at national, regional and subregional levels, where applicable.

119. In recognition of the value of Antarctica as an area for the conduct of scientific research, in particular essential to understanding the global environment, States carrying out such research activities in Antarctica should, as provided for in article III of the Antarctic Treaty, continue to:

(a) Ensure that data and information resulting from such research is freely available to the international community; and

(b) Enhance access of the international scientific community and specialized agencies of the United Nations to such data and information including the encouragement of periodic seminars and symposia.

120. States should strengthen high-level inter-agency international, regional and subregional coordination, as appropriate, and review mechanisms to develop and integrate systematic observation networks. This would include:

(a) Review of existing regional and global databases;

(b) Mechanisms to develop comparable and compatible techniques, validate methodologies and measurements, organize regular scientific reviews, options for corrective measures, agree on formats for presentation and storage, and communicate the information gathered to potential users;

(c) Systematic observation of coastal habitats and sealevel changes, inventories of marine pollution sources and reviews of fisheries statistics;

(d) Organization of periodic assessments of ocean and all seas and coastal area status and trends.

121. UNEP, in cooperation with IOC, should support countries to develop and integrate regional systematic long-term observation programmes, when applicable, into the Regional Seas Programmes in a coordinated fashion to implement global and regional ocean, all seas, and coastal observing systems based on the principle of exchange of data. One aim should be the predicting of the effects of climate-related emergencies on existing coastal physical and socio-economic infrastructure. Site-specific analysis of sealevel rise effects and temperature elevations on sensitive coastal ecosystems and lagoons and economically important species will also be necessary.

Means of implementation

Financing and cost evaluation:

[122. To ensure participation of developing countries in this programme, GOOS is presently estimated to require about $600 million of which about $360 million would come annually from the international community matching about $240 million by the countries themselves. Funding mechanisms are needed for this and for related marine technology and engineering. International organization costs should be increased by $4 million for the full implementation of GOOS. Other large-scale scientific programmes are being planned but their costings are not presently available.]

Scientific and technological means:

123. To address critical uncertainties through systematic coastal, all seas and ocean observations and research, coastal States should cooperate for the development of scientific and technological methods, standards, quality assurance procedures, norms for data exchange, and research approaches required, according to the legal principles generally accepted by the practice of States. They should cooperate on a regional and subregional basis, through existing programmes where applicable, share infrastructure and expensive and sophisticated equipment, and develop human resources jointly. Special attention should be given to transfer of scientific and technological knowledge and means to support States in the development of autonomous capabilities.

124. International organizations should support, when requested, coastal countries implement research projects on the effects of additional ultraviolet radiation.

125. Countries identified as the principal sources of substances that cause the deterioration of the ozone layer should provide the support necessary for implementing the necessary research, as well as consider options to compensate the effects caused by additional ultraviolet radiation.

Human resource development:

126. Countries, with the support of international organizations, should develop a broad and coherent approach to meeting their core human resource needs in the marine sciences.

Capacity-building:

127. Countries should strengthen or establish national scientific and technological oceanographic commissions or equivalent bodies to liaise with national users, work closely with international organizations, and develop and support marine science activities.

128. Countries should use existing regional and subregional mechanisms, where applicable, to develop knowledge of their shared marine environment, exchange information, organize systematic observations and assessments, and make most effective use of scientists, facilities and equipment.

G. SUSTAINABLE DEVELOPMENT OF SMALL ISLANDS

Basis for action

144. Small island developing countries, and islands supporting small communities are a special case both for environment and development. They are ecologically fragile and vulnerable. Their small size, limited resources, geographic dispersion and isolation from markets, disadvantage them economically and prevent economies of scale. For small islands the ocean and coastal environment is of strategic importance and constitutes a valuable development resource.

145. Their geographic isolation has resulted in their habitation of a comparatively large number of unique species of flora and fauna, giving them a very high share of global biodiversity. They also have rich and diverse cultures with special adaptations to island environments and knowledge of the sound management of island resources.

146. Small island developing countries have all the environmental problems and challenges of the coastal zone concentrated in a limited land area. They are considered extremely vulnerable to global warming and sealevel rise with certain small low-lying islands facing the increasing threat of the loss of their entire national territories. Most tropical islands are also now experiencing the more immediate impacts of increasing frequency of cyclones associated with climate change. These are causing major set-backs to their socio-economic development.

147. Because small island development options are limited, there are special challenges to planning for and implementing sustainable development. Small island developing countries will be constrained in meeting these challenges without the cooperation and assistance of the international community.

148. The activities related to the islands cannot be interpreted in any sense that would impair the rights and interests of a State in the seas adjacent to its coasts or restrict the rights embodied in customary international law.

Objectives

149. To adopt and implement plans and programmes to support the sustainable development for small island developing countries and utilization of their coastal and ocean resources, including meeting essential human needs, maintaining biodiversity and improving the quality of life for island people.

150. To adopt measures which will enable island countries to cope effectively, creatively and sustainably with environmental change to reduce the threats posed to oceans and coastal resources.

Activities

Management-related:

151. Small island States and territories, with the assistance as appropriate of the international community and on the basis of existing work of national and international organizations, should:

(a) Study the special environmental and developmental characteristics of small islands including an environmental profile and inventory of their natural resources, critical marine habitats and biodiversity;

(b) Develop techniques for determining and monitoring the carrying capacity of small islands under different development assumptions and resource constraints;

(c) Prepare medium- and long-term plans for sustainable development that emphasize multiple use of resources, integrate environmental considerations with economic and sectoral planning and policies, and which define measures for maintaining cultural and biological diversity, conserve endangered species and critical marine habitats;

(d) Adapt coastal area management techniques, such as planning, siting, E.I.A., using GIS, suitable to the special characteristics of small islands, taking into account the traditional and cultural values of indigenous people of island countries;

(e) Review the existing institutional arrangements and identify and undertake appropriate institutional reforms essential to the effective implementation of sustainable development plans, including intersectoral coordination and community participation in the planning process;

(f) Implement sustainable development plans, including the review and modification of existing unsustainable policies and practices;

(g) Based on the precautionary principle, design and implement rational response strategies to address the environmental, social and economic impacts of climate change and sealevel rise, and prepare appropriate contingency plans;

(h) Promote environmentally sound technology for sustainable development within small island States and identify technologies which should be excluded because of their threats to essential island ecosystems.

Data and information:

152. Additional information on the geographic, environmental, cultural and socio-economic characteristics of islands should be compiled and assessed to assist in the planning process. Existing island databases should be expanded and geographic information systems developed and adapted to suit the special characteristics of islands.

International and regional cooperation and coordination:

153. States, with the support, as appropriate, of regional, subregional and international organizations, upon request, should develop and strengthen inter-island, regional and interregional cooperation and information exchange, including periodic regional and global meetings on sustainable development of small island developing countries with the first Global Conference on the sustainable development of small island developing countries to be held in 1993.

154. International and regional organizations must recognize the special development requirements of small island countries and give adequate priority in the provision of assistance, particularly with respect to the development and implementation of sustainable development plans.

Means of implementation

Financing and cost evaluation:

[155. Technical cooperation costs to implement these activities amount to $7 million per year. A programme on integrated planning for sustainable development of islands will cost about $130 million per year, to be financed by private and public sources. About $40 million could come from the international community. Since many small islands will never develop an adequate economic or population base to provide all of the services necessary for a reasonable quality of life, some external support will frequently be required on a continuing basis. In addition, the need to maintain the island share of global biodiversity will further limit development options and should be supported by the international community with at least $3 million per year.]

Scientific and technical means:

156. Centres for the development and diffusion of scientific information, advice on technical means and technologies appropriate to small island States, especially with reference to the management of the coastal zone, EEZ and marine resources should be established or strengthened as appropriate on a regional basis.

Human resource development:

157. Since populations of small island States cannot maintain all necessary specializations, training for integrated coastal management and development should aim to produce cadres of managers or scientists, engineers and coastal planners able to integrate the many factors which need to be considered in integrated coastal management. Resource users should be prepared to execute both management and protection functions and to apply the polluter pays principle and support the training of their personnel. Educational systems should be modified to meet these needs and special training programmes developed in integrated island management and development. Local planning should be integrated in educational curricula of all levels and public awareness campaigns developed with the assistance of NGOs and indigenous coastal population.

Capacity-building:

158. The total capacity of small island States will always be limited. Existing capacity must therefore be restructured to efficiently meet the immediate needs for sustainable development and integrated management. At the same time adequate and appropriate assistance from the international community must be directed at strengthening the full range of human resources needed on a continuous basis to implement sustainable development plans.

159. New technologies which can increase the output and range of capability of the limited human resources should be employed to increase the capacity of very small populations to meet their needs. The development and application of traditional knowledge to improve the capacity of countries to implement sustainable development should be fostered.